

Notizen:

Notiztitel

12.09.2012

$$108 \frac{\text{m}}{\text{s}}$$

$$v = 108 \frac{\text{km}}{\text{h}} \leftarrow \text{km/h} \begin{matrix} \swarrow \\ \text{(mph)} \end{matrix}$$

$$v = 30 \frac{\text{m}}{\text{s}}$$

$$108 \frac{\text{km}}{\text{h}} = \frac{108000 \text{ m}}{3600 \text{ s}}$$

$$\frac{\text{km}}{\text{h}} = \frac{1000 \text{ m}}{3600 \text{ s}} = \frac{1}{3,6} \frac{\text{m}}{\text{s}}$$

$$\text{alternativ} \frac{\text{m}}{\text{s}} \leftarrow = \frac{0,001 \text{ km}}{\frac{1}{3600} \text{ h}}$$

„mal den Kehrwert“:

$$\underbrace{0,001 \cdot 3600}_{3,6} \frac{\text{km}}{\text{h}}$$

## Wiederholungsblatt

$$A1) \quad v_1 = 10 \frac{\text{m}}{\text{s}}, \quad v_2 = 30 \frac{\text{m}}{\text{s}}$$

$$\boxed{v = a \cdot t}$$

$$\leadsto \underline{a = \frac{\Delta v}{\Delta t}}$$

$$\frac{\frac{\text{m}}{\text{s}}}{\text{s}} = \frac{\text{m}}{\text{s}^2}$$

$$a = \frac{20 \frac{\text{m}}{\text{s}}}{8 \text{s}} = 2,5 \frac{\text{m}}{\text{s}^2}$$

$$s(t) = 100 + 10 \cdot t + 1,25 \cdot t^2 \quad ?$$

(t in s, s in m)

$$s_0 = s(0) = ? = 100 \text{ cm}$$

$$s = \frac{1}{2} a t^2$$

2,5

$$(s = \frac{1}{2} g t^2)$$

$$v = a \cdot t$$

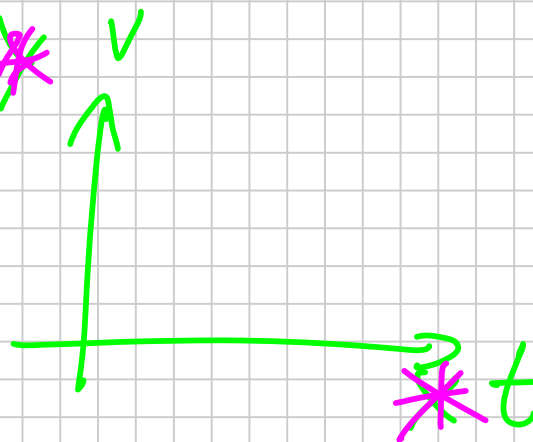
$$v = \frac{s}{t} \rightarrow$$

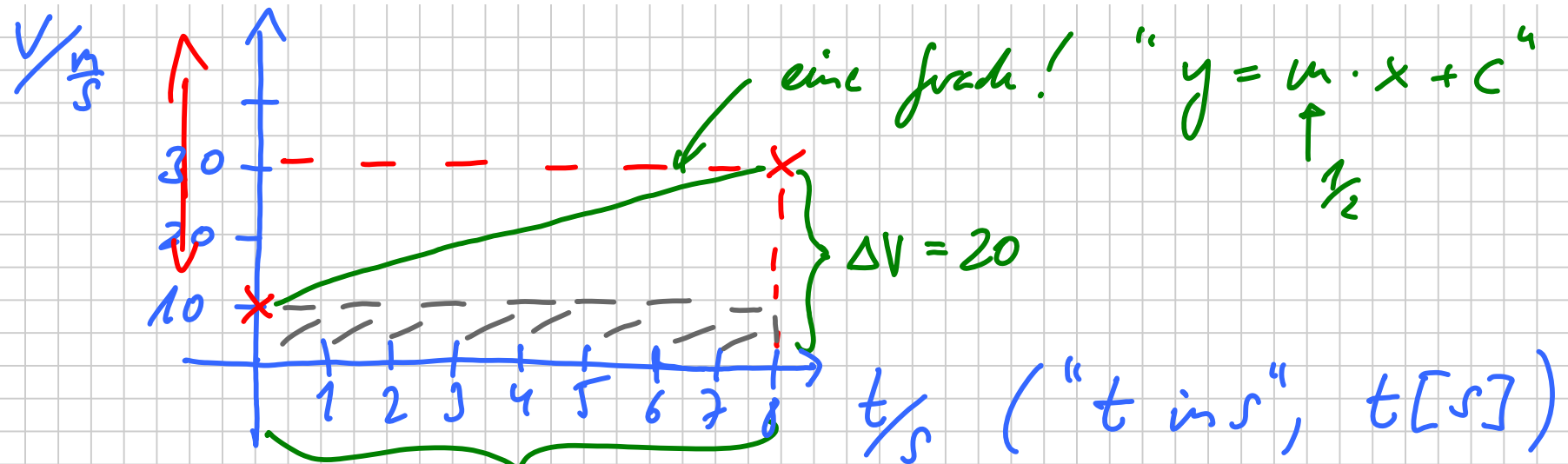
$$s = v \cdot t$$

$$s = a \cdot t \cdot t = a t^2$$

$$v_0 = \frac{s}{t}$$

$$s = v_0 \cdot t$$





(Punkt: Ableitung nach  $t$ )

$$s'(t) = \dot{s}$$

$$m = \frac{20}{8} = 2,5 = \underline{\underline{a}}$$

$\uparrow$

$$s' = v,$$

$$v' = a = s''$$

$$v = 2,5 \cdot t + 10 = v(t) = 10 + 2,5 \cdot t$$

$$s(t) = 100 + 10 \cdot t + 1,25 t^2$$

$$v(t) = s'(t) = 10 + 2,5 t$$

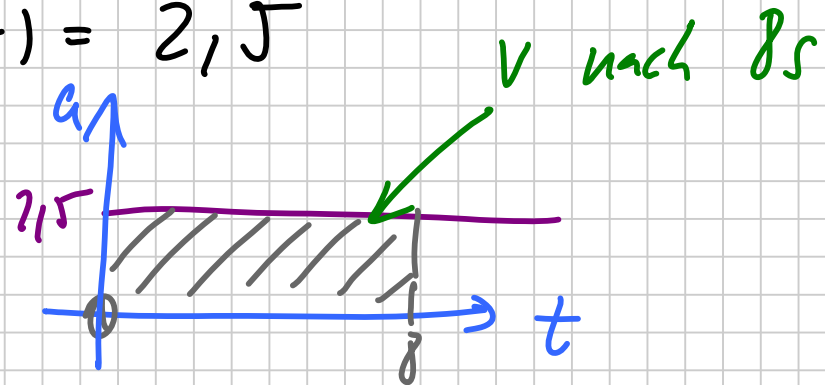
$$s'(t) = \dot{s} = v(t)$$

$$v'(t) = \dot{v} = \ddot{s} = a(t)$$

$$a'(t) \Leftarrow$$

$$v(t) = 10 + 2,5 \cdot t$$

$$v'(t) = \dot{v} = a(t) = 2,5$$



A2)  $s(6) = \dots$

A3) s.o. !